

Transient subglacial water-flow

Paul Winberry, Central Washington University

Strong nonsteadiness occurs in the subglacial water system and may influence ice–stream dynamics. We present observations of harmonic glacial tremors beneath MacAyeal Ice Stream, Antarctica (MIS). Each tremor event has sustained arrival of 3 Hz energy for over 10 minutes, during which the source location migrates. The duration, monochromatic nature, and movement indicate that the source mechanism is transient flow in the subglacial water system resulting from the discharge from a small subglacial lake.